

Amendments to the Specification:

[0029] As shown in Figure 1, the vertical load measurement device 1 of the present invention is adapted to be installed on an axle [[2]] A of the railcar, a wheel [[3]] W being rotatably mounted to the axle [[2]] A. In illustrated implementation, one end of the truck 4 lies across the vertical load measurement device 1, the truck 4 being oriented parallel to the railcar's orientation along a railroad track [[5]] R and perpendicular to the axle [[2]] A. Thus, a portion of the total load that is supported by the truck 4 which is a load bearing member, is applied to the vertical load measurement device 1.

[0030] It should be noted that whereas in the illustration of Figure 1, only one vertical load measurement device 1 is shown, another vertical load measurement device is preferably positioned on the opposite end of the axle [[2]] A to thereby allow measurement of the load that is supported by axle [[2]] A of the truck 4. Moreover, it should also be appreciated that the other axles of the railcar may be provided with two or more vertical load measurement devices that are similarly implemented to allow measurement of the load supported by each of the axles. Thus, because a conventional railcars include two trucks, each truck typically having two axles, a conventional railcar may be provided with eight vertical load measurement devices of the present invention to allow determination of the load supported by each of the axles, and to allow determination of the weight of the railcar.

[0032] The beam members 1a and 1b include load bearing sections 3a and 3b, respectively, which are slightly raised sections positioned at the center of beam members 1a and 1b. The load bearing sections 3a and 3b serve as the contact point for a load bearing member such as the truck 4 when the vertical load measurement device 1 is mounted thereto in the manner shown in Figure 1. Load L is applied to load bearing sections 3a and 3b, the load L relating to the portion of weight of the rail car and its contents that is supported by the axle [[2]] A.

[0038] As clearly shown in Figure 6, the beam member 1a also includes protrusion 5 on the underside of beam member 1a, preferably in the center of the underside of beam member 1a. The protrusion 5 extends downwardly toward the bearing adapter 10 when the beam member 1a is secured thereto, but does not contact the bearing adapter 10. In other words, the protrusion 5 does not extend as far down as the bosses with the mounting holes 2a and 2b. However, as load L is applied to load bearing section [[3]] 3a of beam member 1a by the side frame T of the truck 4, the center of the beam member 1a is deflected downward toward the

bearing adapter 10, the amount of deflection corresponding to the magnitude of the applied load L. As previously described, the strain gauges 12 mounted to the underside of the beam member 1a thereby detect and measure any deflection of beam member 1a caused by the applied load L so that the measured strain can be converted to an actual vertical load.